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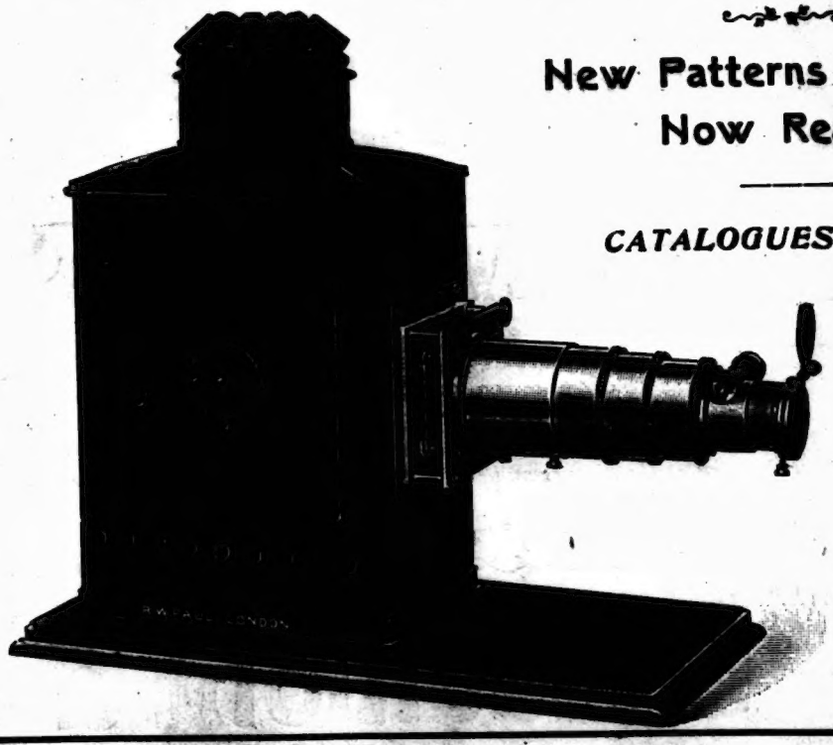

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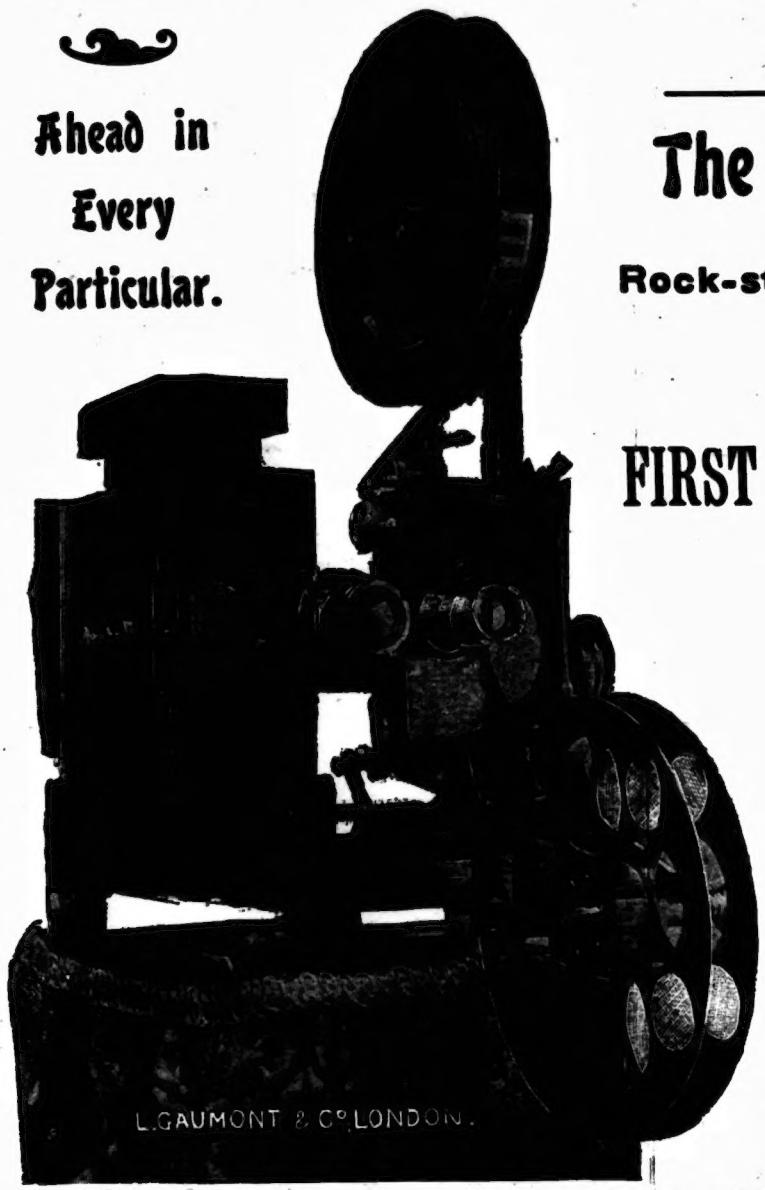

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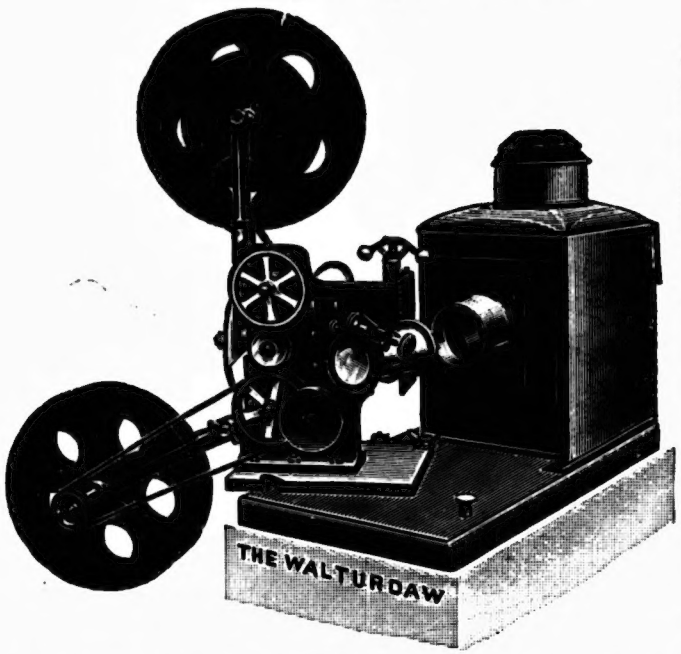

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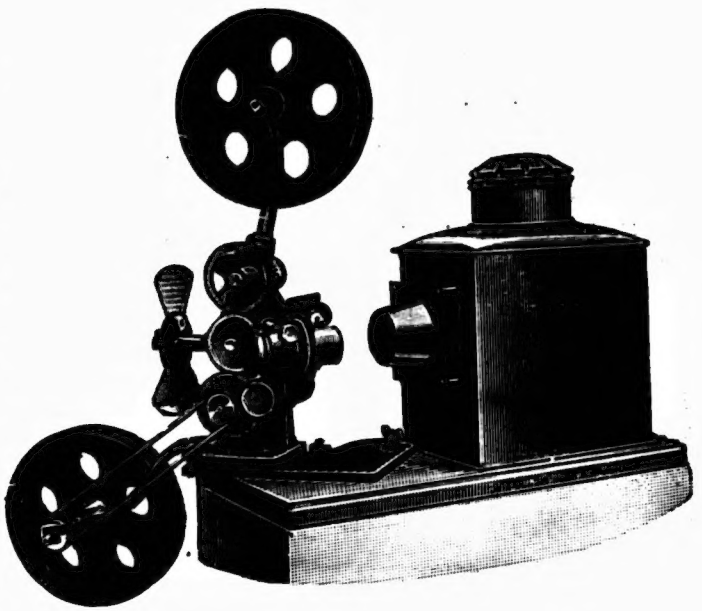

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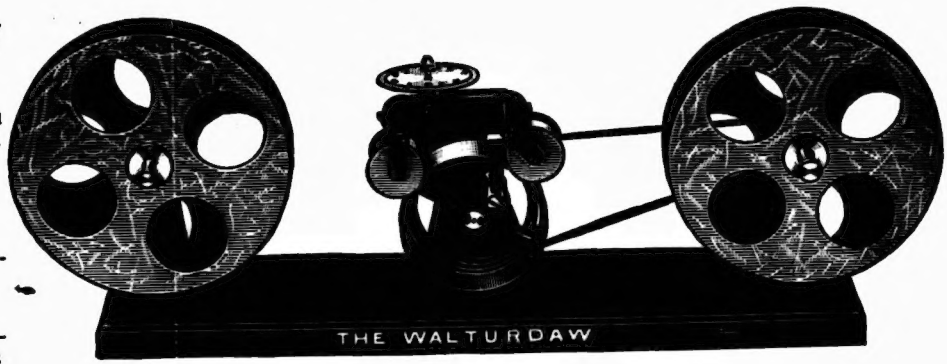

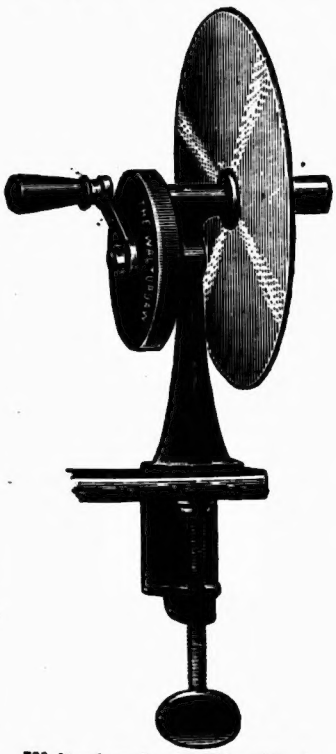

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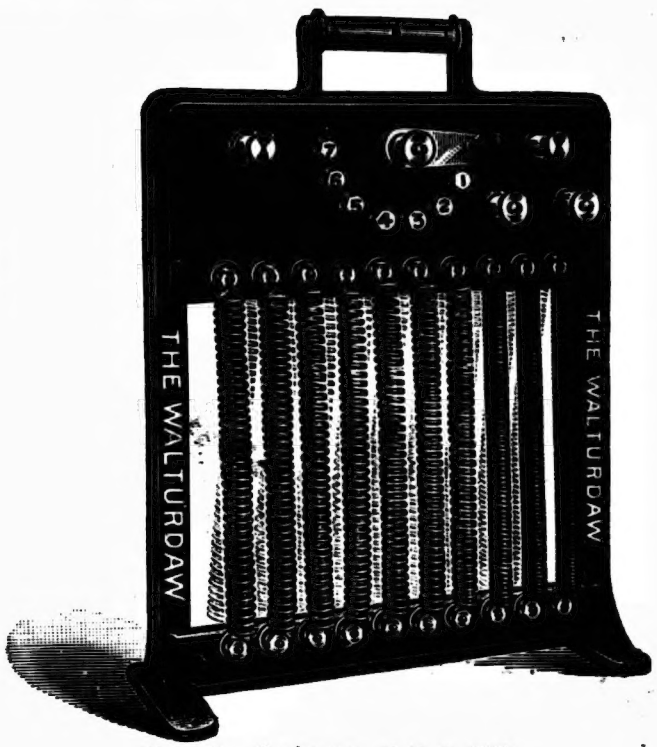

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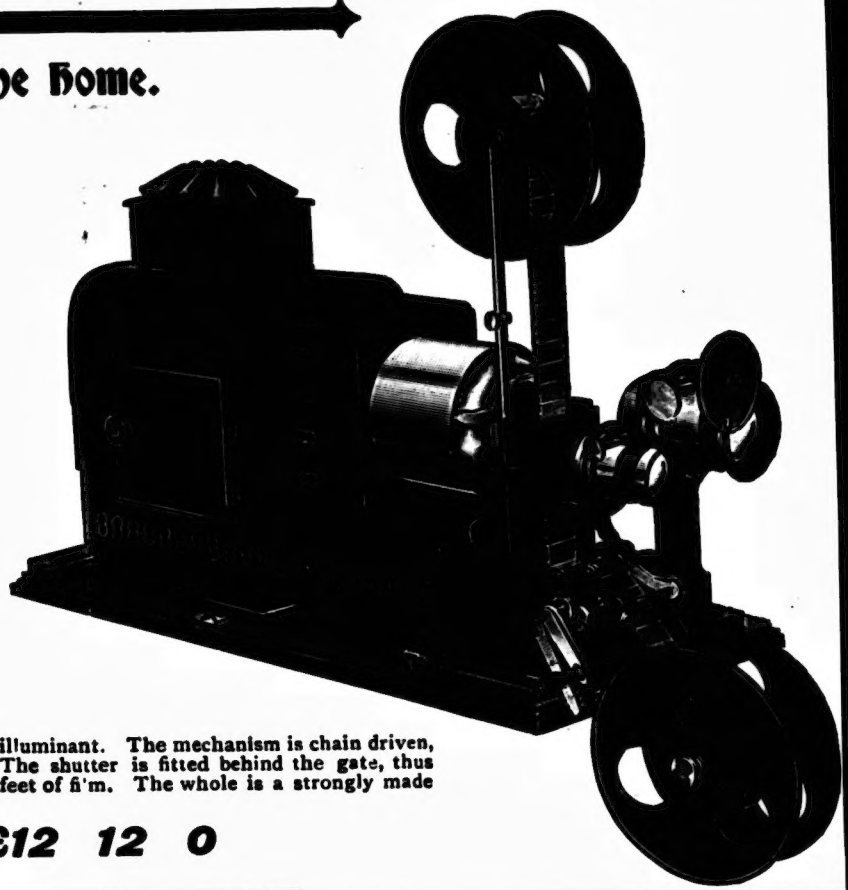

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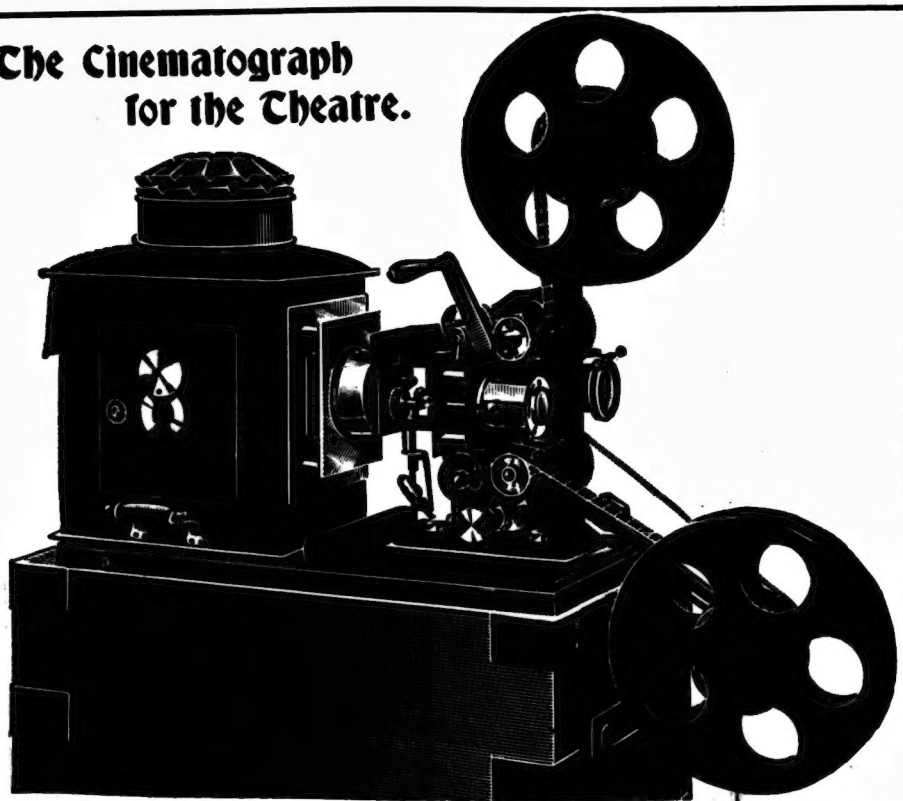

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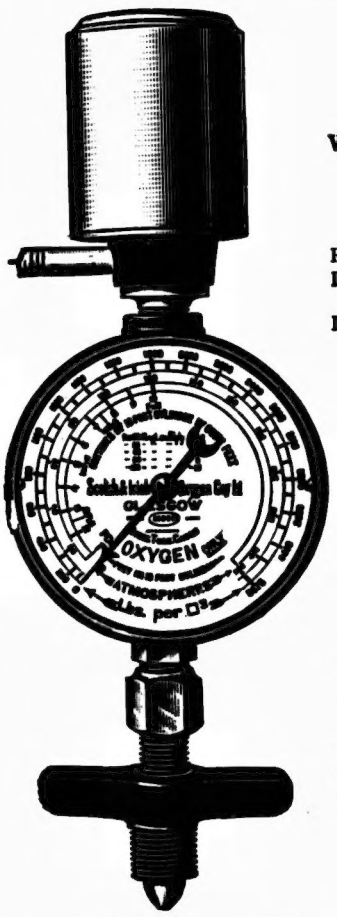

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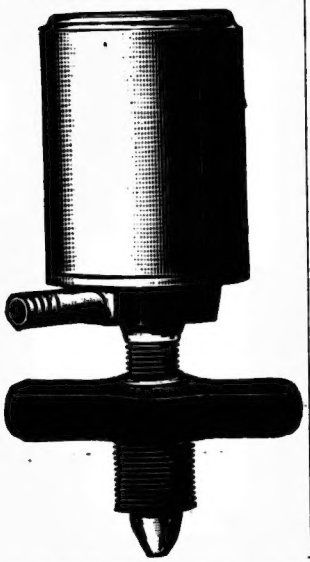

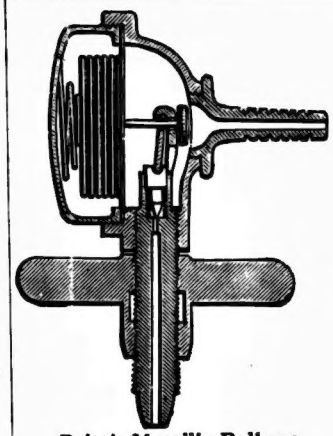

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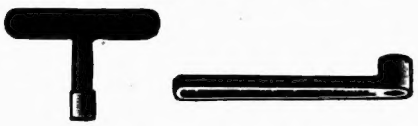

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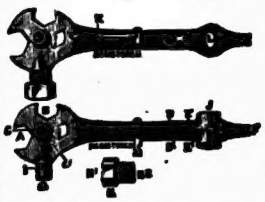

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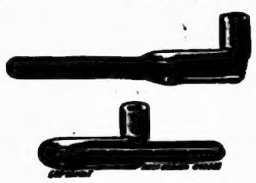

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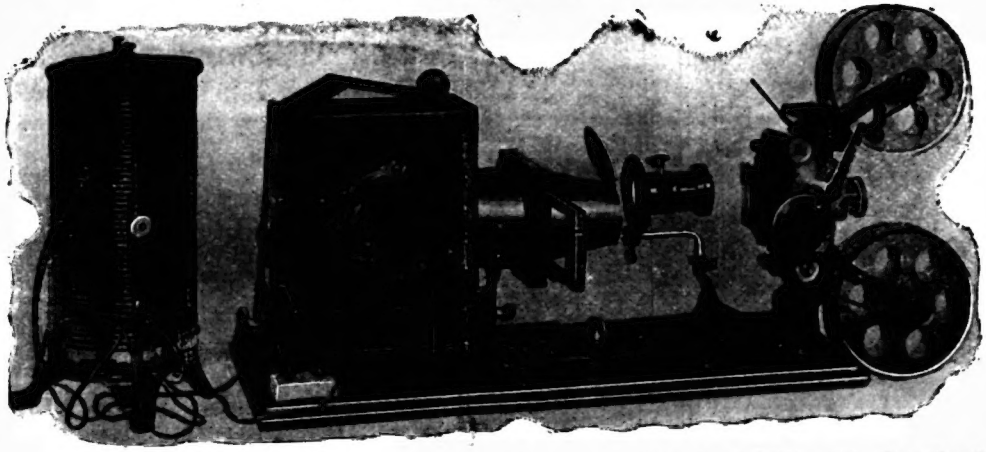

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Ordinary Position

SIR HENRY IRVING. The day following the sudden death of the distinguished actor we were asked if any films had been taken of him either on the stage or in any private capacity, and if we could give the address where they could be obtained. We could not trace a single film, although we were under the impression that we had seen one some time ago. If any reader knows of such a film and can give particulars we shall be greatly obliged.

LIVING YET DEAD. This enquiry has made us wonder if it is beyond the range of possibilities to establish a library of national films. What priceless treasures some of the ancient events would be if they had been recorded as living pictures! The history of to-day will be equally valuable if handed down for future generations to witness. No matter how good the ordinary photo or picture, it lacks the action which impresses itself on the mind. All great events, every celebrated character, interesting scenes, and noted thoroughfares with present day traffic should be "filmed" for the use of future generations. A scene from some great play showing the noted actor and his company, would now be a valuable link with the past.

FILMED INSIDE THE LYCEUM. That such is possible is proved by the excellent pictures Mr. Smith (the able manager for Mr. Paul) took last month in the theatre with which Sir Henry was so long associated. We believe this was the first successful series of pictures ever obtained inside a theatre. It was the opening event of the wrestling season in London when a large audience witnessed the match between Ahmed Madrali, "The Terrible Turk," and Tom Jenkins, champion of America. This is another feather in Mr. Paul's cap, and, considering the obstacles that had to be overcome, the quality is good and the pictures full of interest and movement from begining to end.

FIRST BLOOD. When the series of articles on Legitimate Trading was put before us we hestitated as to whether their insertion in our pages would cause further friction, or whether the desideratum of the writer would ultimately be achieved. That Mr. Pepper has an inside knowledge of the state of trade is apparent, and we are glad to see from Mr. Urban's letter elsewhere that he would be one of the first to join hands in establishing some definite understanding for the general improvement of the trade; but in a recent chat with him we learnt that he despaired of being able to invite the principal film makers to take strong action for the elevation of the trade and the suppression of the evils to which last month's article called attention. In the second paper published this month, Mr. Pepper again goes straight for the subject, and considerably strengthens the case. We should be glad to find other leaders of the trade willing to follow the initiative. Our pages are also at the disposal of others who may hold other views of the matter.

A BIG DRAW. Very few of the living picture people realise the attractions local photos prove to the inhabitants; or else they are aware of the fact and do not know how easy it is to obtain the films or where to obtain them. The main street of the town, the mayor at church, the opening of the baths, a prize distribution or church parade, in fact any event in which there is a crowd makes one of the finest advertisements that a show could possess. The local characters want their friends to see them on the screen and proudly tell everyone that they are appearing nightly at such and such hall. The ball thus set rolling travels rapidly, and the initial expense is soon returned. We believe the charge for this class of work is 10/6 a day for the camera man, and 8d. per foot for the film. It would more than pay some of our showmen to invest in two or three special subjects.

OPERATORS' GUILD. Pressure on our space this month compels us to hold over many interesting letters on this important subject. The agitation for trade organisation is keener than ever, and many are the calls and chats we have had from those interested. We are making arrangements for issuing a definite propaganda, forming a committee and appointing a secretary, and we have no hesitation in saying, when the preliminary matters are settled, that the movement will become useful and popular. We shall be glad of further suggestions or to hear from others interested.

OURSELVES. We are reluctant to take up space, yet feel it incumbent upon us to say something this month about the success of our publication. Whether it was the reduction of the price to 2d., the fact that articles of additional interest appeared, or that our magazine is better known, or the combination of circumstances, we know not, but the fact remains that,owing to the demand for the October number,copies were quickly out of print. We shall be glad if the wholesale trade will quickly let us have the "returns." Naturally, with the increased circulation, our advertisement pages are of greater value, and those firms who are not represented in our pages would do well to note the advantages of taking a space in the only trade organ, which it is their duty to support.

LECTURES ON THE LANTERN. Steps are being taken to establish a class for instruction in operating the single, biunial and triunial lantern and cinematograph at one of our London Polytechnics. The services of a well-known authority, who has been associated with the development of the optical lantern for twenty years, will be secured, and a complete outfit of the latest apparatus will be at the disposal of students. The syllabus, among other items, will embrace:—The body of the lantern and its equipment, lenses, condensors, their uses and misuses; illuminants—oil, lime, gas, acetylene and electric; screens, sheets and elevators; slides—photo'ing for, development of, coloring, covering, binding, washing, etc.; the living picture camera and how to use it; the projector, films and film printing, &c. Judging from the enquiries we have received, these classes should fill a much needed gap in the technical instruction given at their institutions. Any reader desiring further information should correspond with us.

What is Legitimate Trading?

SOME CURSES AND THEIR CURE. . .

By J. C. PEPPER.

WHEN I started this series of papers for THE OPTICAL LANTERN AND CINEMATOGRAPH JOURNAL last month, I had the impression that my views would be at variance with the majority of the readers, and that I should be called over the coals for daring to suggest that such evils existed. I am pleased to say that the Editor has handed me several letters thanking him for inserting the articles, and strongly supporting my statements as to the evil effects of trade rivalry, film filching, robbery by reacting, stolen titles, and the other evils which I enumerated. All agree that such exist and are rapidly on the increase, but they differ with me as to the remedy.

Perhaps it was presumption on my part to offer a remedy, but it was a bare suggestion on which a more solid groundwork could be built. Members of the trade, whom I have seen since the first article appeared, have impressed upon me the hopelessness of the case. They deplore the condition of things, and content themselves with the thought that they have not suffered so much as others. I found, with one notable exception, feebleness and lack of determination to take strong action, the order of the day. Others tried to argue the point. "What can we individuals do?" was their continual cry, and when I suggested combination and organisation, they answered, "Get the others to form a Ring and we will join."

The majority of film makers are of an envious and suspicious nature, and follow a short sighted policy, although, no doubt, if the matter were cut and dried for them in some scheme of an advantageous nature, all would then like to be in the swim to reap the benefits. They are afraid that any act of theirs towards improving the cinematograph trade might benefit a competitor, and so, from this dog in the manger point of view, they are prepared to lose the solid advantages to themselves and others that would certainly accrue from genuine co-operation and combination.

If we have thus arrived at the point of seeing that united action is really impossible, then my advice is that firms should compete honestly, on the merits of their productions, refraining from price cutting, imitating others, copying titles and ideas, and pirating other people's products.

This straight competition would mean "the survival of the fittest," and the remaining few might then have sufficient confidence in the future of the business and in their own capabilities to be able to hold their own position under a united banner of fair and legitimate trade.

Apathy in this vital matter, such as is at present evident, must sooner or later meet its own reward, and things will inevitably go from bad to worse; but honesty and integrity in carrying out the regenerative methods is an absolute necessity. The would-be reformers must really be prepared to practice what they preach!

DISHONEST BLUFF.

It has been pointed out to me that one of the principal American film producers has fought against copying and duplicating for a long time. Their lists and adver-

tising literature are liberally besprinkled with "notice to pirates" somewhat in these terms:—

These film subjects are sold to purchasers with the absolute restriction that they must not be utilised for purposes of duplicating or printing other films from them. All misuse of them for such purposes infringes the patents under which they are made and sold. All infringement of copyrighted films will entail instant prosecution, and be stopped by legal injunction.

Now, what is the good of this "bluff,' when the good example is not set by the firm issuing the warning notice? For it is well known that they themselves are offenders.

It was not my desire to recapitulate the grievances of last month's article, but so many have written to me that I felt compelled to again allude to the subject. I wish, however, this month to refer more particularly to

FILM AND LANTERN HIRING.

I quite recognise that I am treading on delicate ground, and you, Mr. Editor, may think twice before inserting my article; but I would repeat that I write as the matter appeals to me individually, and many may view it differently.

As far as I have been able to learn, the hiring system was adopted in the first instance with sincere motives of popularising the cinematograph for home use. The cry had gone forth that what had been done in the past with the magic lantern could be achieved by living pictures. This was illustrated by the demand for cheap foreign lanterns which projected in very indifferent manner, bands of films produced by litho-chromo or some such cheap process. Those who purchased these toys—and they were nothing else—became infected with a desire for something better. They left the toyshop stage, and after a difficulty found a firm who made a really serviceable apparatus, but were astonished at the price of the projectors, and completely staggered when told that films were 6d. per foot, and that 100 feet was a very short subject. The firm grasped the situation, saw a demand from a new channel, and in good faith sought to cater for it. In order to meet the case, they offered in the first instance to loan the apparatus at a very remunerative figure, but the amateur wanted more than this, and gradually terms were arranged by which he could possess his own "bag of tricks," and pay for it by instalments.

"The unexpected generally happens," and it was not long before the aspirant for living picture fame was blossoming out at bazaars, mission halls, penny readings, and other entertainments.

Then a new feature crept in—the man who is ever anxious for a new method of gaining a living, but who is generally desirous of doing it at another's expense. This is the man, in my opinion, who has brought disgrace upon the system.

ITS RESULT.

The amateur was bad enough, for he gave an indifferent show and took away the possibility of a recognised firm giving the entertainments at a legitimate charge, but the would-be professional who decided to make it his livelihood has proved that the system is detrimental to the best interests of the profession. Provided with indifferent apparatus of which he knows nothing, except what he casually picks up from the catalogue, armed with a supply of films, which I will let down lightly by saying are not the latest, and show signs of ill-usage, he has with creditable persistence thrust his show on to managers of provincial halls, who grasp at cheapness, and the fact that the man has his own (?) paraphernalia.

We have seen his show, and been sickened at the sight of job lots of rejected, defective, and out-of-date subjects, which are joined up haphazard with an occasional short length of a film in fair condition and interest, and wound on spools of 1,000 feet. This reel forms the basis of many public exhibitions at music halls, fairs, and private entertainments, and is hired out at from 15/- to 25/- a week.

ANYONE CAN HIRE.

Those who hire will say, "We carefully discriminate to whom we lend films, and, as to rubbish, come and see our stock." Yes, their stock is fairly right, and they take precautions by having agreements so that the hirer pays for all damaged films; but it is this damaged film which the

hiring firm takes advantage of. He has paid good solid cash for it, and uses it wherever he can. Here is a copy of the agreement:—

THE UNDERSIGNED hereby deposits.....as security on.....reels of standard gauge film, averaging.....feet per reel, and agrees to rent the same from the..... .....for..... ..weeks at.....per week, for use at..... paying carriage in both directions. The undersigned further agrees to pay for all films destroyed while in.....possession at the rate of..... per foot.

Signed.....

Witness..... .....

.....accepts above, agreeing to supply a weekly change of reels, and to refund deposit upon return of reels and fulfilment of contract.

And as to discrimination, read the following letter, which is the stereotyped reply sent to everyone writing to them:—

Dear Sir,—In reply to your favour, enclosed you will find lists of song slides and films, together with prices on machines, new and second-hand, which we always carry in stock.

As to the rental, we rent as follows:—A reel of about 1,000 feet film at .. ..per week; smaller reels on application. Should you want to rent a machine complete for moving pictures and illustrated songs, we will rent you one at..... ...per week, for which you will receive on rental one first class up-to-date combination picture machine, together with about 1,000 feet film and two sets song slides.

Films and slides, as well as the machine, will be the very latest and best on the market. Rental payable in advance, deposit on full outfit required, cash or other good security. We guarantee to give you the very best goods obtainable, and one trial will fully convince you of our superior service.

We are busy supplying first class theatres and music halls everywhere with a nice selection of up-to-date films and good service. There is a vast difference between getting "cheap pictures" and getting "*good pictures*" at reasonable prices as we supply.

We are not the only people on earth supplying good pictures, but we work on close margin, and our business is increasing every day and is very successful, as well as the theatres we supply with films.

This concern is conducted on business principles; it is not doing business by promising impossibilities. "When we promise to do a thing we live up to it," and we are always ready for legitimate competition, and are willing to take our chance with the rest.

No one can underbid us on "GOOD FILMS;" but we would not have our names associated with a trashy exhibition, neither can you afford it, etc.

Now, I ask, what are the benefits that may be expected to be realised by the acceptor of this illusory "agreement"? Of what do these films consist? They comprise used films, I had almost said used-up films, discarded by exhibitors; misprints and defective films, of which all film manufacturers have a percentage; out-of-date subjects, etc., etc.

Some film hiring concerns periodically buy up this offal of the manufacturer, the exhibitor, and the showman, and it is the making up of this rubbish into 1,000 foot reels which forms the principal stock-in-trade of the "exhibitor," who caters to the cheap manager for a cheap show.

My argument against selling apparatus on the instalment system and the hiring of films is that it invites a host of incapable men and boys into the business who possess the crudest knowledge of the machine, gas, electricity, and other details, with the result that accidents occur, and the authorities impose stringent and oft-times ridiculous restrictions on the whole of the trade. If only operators were licensed by the authorities and the license of offenders cancelled, then a wholesome clearance of this factor would result.

The exhibitor acquiring his apparatus by instalments can afford to give a cheap show, and the cheap manager is too short-sighted to see that this entertainment cheapens his house and disgusts his audiences.

The further effect is that the legitimate exhibitor, who has many hundreds invested in apparatus and films, and has devoted study to all branches of the business, has disastrous competition to meet, or else retire and make room for the incompetent man working on someone else's capital.

MANAGERS ALSO TO BLAME.

Can any level-headed manager expect a high class exhibit, including latest projector, electrical apparatus, up-to-date pictures, and a competent operator for £5 or less per week? Such an exhibit can only be a detriment to the establishment, and acts as a tedious fill gap instead of the "star" turn.

Many London and provincial managers have during the last years allowed to slip through their fingers one of the greatest attractions and sources of revenue ever placed within their reach. They have allowed exhibitors to compete one against the other as to price, irrespective of the class of picture exhibit they were able to

produce. To the short-sighted manager all animated picture exhibits served only one purpose, namely, to be used as a cheap "fill-in" while shifting scenery, or if a gap of ten minutes or more in their programme was to be bridged, the pictures were requisitioned. Even if the operator had only films enough (of a sort) to last five minutes, he was expected to spin out the time somehow; or, if the manager wanted the house cleared, he would conclude the programme with the cheap picture show, and surprise himself with the alacrity of the audience to comply with his hint to "clear out."

If these are the objects of the manager by engaging a *cheap picture* exhibit, nothing could serve his purpose better.

THE COMPETENT MANAGER.

There are a certain number of managers in England who quickly grasp the value of an attraction, and make the most of it. They have long since "spotted" the high class and up-to-date motion picture exhibit, knowing fully well the hold a good reproduction has on the public. They know that a well-paid exhibit offers sufficient incentive to the exhibitor to keep his show up-to-date, with the result that such pictures are equal to the drawing power of any £100 turn they could possibly engage, without costing one-third of this amount.

Such is the successful manager who enables his directors, by his sound judgment, to pay a goodly annual dividend to the shareholders of his establishment.

THEATRE MANAGERS WHO CONDUCT THEIR OWN PICTURE EXHIBITS.

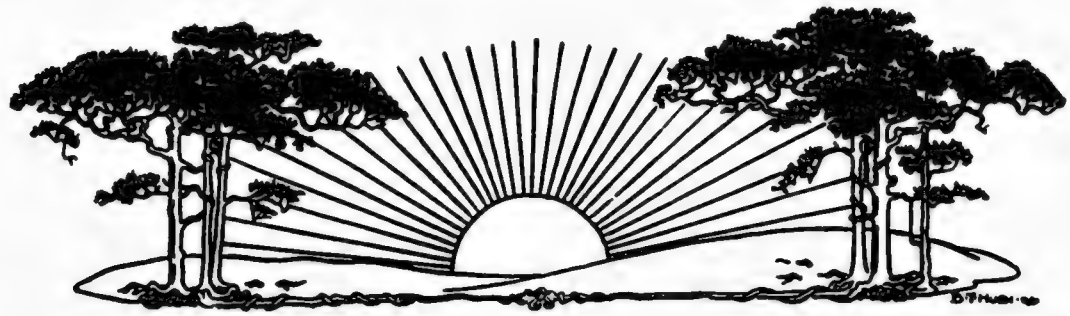
The majority of these have found their experiment in this direction most costly and unsatisfactory, inasmuch as they cannot produce a thoroughly up-to-date exhibit without a large expenditure for films and constant repairs to machines, which they cannot supervise owing to their many other duties. They engage the electrician of their theatre, the office boy, or a scene shifter to operate the machine (by increasing his wages slightly per week).

They forget that successful exhibiting requires four essentials—an efficient up-to-date instrument, a perfect system to illuminating and optics, pictures of up-to-date interest and finest photographic quality, and a thoroughly competent operator, who, by prolonged experience and consequent skill, knows how to achieve the very best results.

The inefficient make shift operator cares little as to the results produced on the screen. The writer has actually seen one, while projecting during his turn, grind round the handle with his right hand, while in his left he held a penny novelette, which he read by the light emitted from the back of his lantern, and which novelette evidently engrossed far more of his attention than did his "show."

Anybody can turn a handle, even an organ-grinder; but the exhibit given by the inefficient substitute for the competent operator must always be a failure, irrespective of what plant may be at his command.

To this manager I say: Get rid of this worry. Turn it over to a reliable exhibitor, who makes a study and a business of producing animated pictures; pay him a reasonable figure for a good show, and you, he, and your audiences are all equally pleased. Furthermore, you have saved and earned money through the change in the end.



MICROSCOPIC AND SCIENTIFIC WORK WITH THE OPTICAL LANTERN.

By PROFESSOR W. H. GOLDING.

A CORRESPONDENT of this Journal, residing in the north of Europe, has recently sought information and assistance as to the use of the Optical Lantern in the projection upon the screen of microscopic objects, as well as of experiments in various branches of optical and physical science.

The enquiry opens up a wide field of research to which the optical lantern readily lends itself, supplying in every way the most advantageous means of demonstration, especially where an audience of any size is to be provided for; and as other readers may desire to tread in the same or similar paths, and may be willing to profit by the experience of those who have already given some attention to the subject, the writer hopes to deal, in the limited space allotted to him, with some of the special conditions of this most important and interesting branch of work, and to offer such suggestions as experience may indicate as likely to be of service.

The ordinary principles of optical projection are equally applicable to all methods of producing an image upon the screen, whether by the aid of the usual lantern lenses or any other optical combination, such as those employed in the microscope, telescope, polariscope, or any similar instrument.

In each case we require a suitable object for examination, a radiant or source of light to supply the necessary illumination, a system of lenses or reflectors, or both, to concentrate as much of the available light as possible upon the object to be examined, and another lens or optical system to refract the rays proceeding from the illuminated object, and to bring them to a focus at a point or rather upon a surface capable of intercepting the rays, receiving the magnified image and rendering it visible to the spectators.

Assuming the object to have been selected, we have first to consider the source of light to be employed. In practice the direct rays of the sun may be left out of consideration, since they are seldom available and are liable to change their direction too rapidly to be of use, as well as to yield too much heat when concentrated upon the object, though if they could be utilised they would be at once the most powerful and most economical illuminant that could be employed. In the absence of the solar rays the sources of light available are limited to lamps burning some liquid or gaseous fuel, such as oil or coal gas, or incandescent lamps depending on heating to a high temperature some solid substance not yielded by the fuel itself and sufficiently refractory to remain solid without undergoing chemical change at a temperature sufficiently intense to render it brilliantly luminous, the combustion of the fuel in this case supplying the necessary heat to produce the result required, without any very luminous flame. Beside these we have the choice of the electric current as a source of heat without combustion, applied, as in the case of the incandescent lamp, to the heating of a filament of carbon or other infusible substance protected from the action of the air, or as in the arc light, to the incandescence of vapour and solid particles under the influence of the intensely high temperature produced by the discharge of the electric force between carbon terminals, the latter being by far the most brilliant means of illumination at present within our reach.

To the casual or ordinary observer it would naturally appear that the source of light capable of illuminating a room or open space most brilliantly would be the one best suited for the special purpose now in view, but this is far from being the case.

We have to consider not merely the amount of light given off from a certain source. but how much of it we can make use of for our special purpose, and we shall find that in most cases a very small part of the rays from a luminous body can be collected and caused to pass through the lenses of any optical system, so that the smaller any source of light is in proportion to its brilliancy, the less of it is likely to be lost to us when attempting, as it were, to force it through a narrow opening or space.

Now in the case of an ordinary lamp or gas flame the luminous surface is of considerable size, presenting perhaps several square inches of light-giving material, every point in which is contributing its share to the general result. This is the case in a still greater degree with the incandescent mantle, made of a network of some refractory and infusible earthy substance, which is so largely employed for illumination of rooms and other spaces.

For such purposes the size of the source of light presents no disadvantage, since the surface to be lighted is considerable, and every part of it needs as nearly as may be an equal share of the illumination, dark shadows being avoided when the light proceeds from many points; but in the case we are now considering we require a powerful beam to fall upon a small object, and all stray light to be excluded, any rays which do not help to form the magnified image being only a source of confusion, and fatal to the production of the desired result. The body of the lantern, the tube of the telescope or microscope, and the mount of the projecting lens are all obviously intended to shut out these intrusive rays, and prevent their entering the room. Now, while the aperture of a lantern lens is small, that of the microscope objective and of its accompanying condenser is very much smaller, and only the rays from a mere spot of luminous surface can be caused to enter them, all the remainder being useless or worse than useless for our purpose, and the same remark applies, only in a less degree, to the lenses used in experiments on polarised light. In the latter case, too, the polariser, and frequently the analyser, depend for their effect upon reflection, and far more of the incident rays are absorbed and rendered unavailable by a reflecting surface than by a transparent medium such as the glass of which lenses are made. Polarised light, again, is by its very nature only a selection of part of the rays which enter the optical system, at least half of them being suppressed or thrown out of the field of view in order that the remainder may be polarised.

When it is further considered that the objects to be examined by the microscope and the polariscope are frequently very imperfectly transparent, and much light is necessarily lost in passing through them, it will be evident that only a very small and extremely brilliant illuminant is of any use for the purpose in view.

The leading expert in optical projection, Mr. Lewis Wright, has been quoted as an authority for the use of a three or four wick lamp, such as the "Pamphengos" of Mr. W. C. Hughes, as a satisfactory illuminant for polarising purposes, and this lamp is probably the most powerful of its kind, yielding under the most favourable circumstances a light equal to 120 or 130 standard candles (itself rather an indefinite term, since even so-called "standard" candles differ very considerably in luminous power according to their quality and the circumstances under which they are used), but at best only a small part of this light can be directed through the condensers and projecting lenses, for the reasons already given, and the heat from such a lamp is very great, a consideration which has apparently led Mr. Wright, in his most recent work on "Optical Projection," to omit the reference to this source of illumination as one suitable for the purpose in question. Mr. Wright, too, is exceptionally skilful in making the utmost possible use of every advantage the appliances at his disposal are capable of yielding, and in his hands effects are produced which would be beyond the reach of any one less expert and less constantly engaged in research. He attains his best results only in a room in absolute darkness, save for the light actually used in the experiment in hand, a condition very seldom met with and very difficult to secure unless by the most careful precautions, and practically unattainable in any large lecture hall or public building, even a very minute quantity of stray light being fatal to a satisfactory result.

Amongst the most powerful illuminants at the disposal of those who are unable to avail themselves of the electric arc or the oxy-hydrogen light are the "Sol," the "Meta," the "Service," and the "Lilliput" lamps, and those which depend upon the consumption of acetylene gas. The former class of lamps, several forms of which have recently been introduced, have the advantages of economy, portability and cleanliness, being constructed to consume methylated alcohol, a spirit readily obtained almost anywhere in or near a town, and one which burns without smoke, to the production of which in undesirably large quantities the mineral oils are especially addicted, unless burned with caution and in lamps with very well regulated air supply. In the "Sol," and other lamps referred to, the methylated spirit is contained in a reservoir capable of containing sufficient for from one to two hours use, which may, if desired, be placed outside the lantern, so as to be free from risk of overheating, and to be readily reached. From this receptacle the spirit

flows along a tube leading to the burner, which is an adaptation of the Bunsen burner or that used in an incandescent gas jet, and is in the first instance heated by a small spirit flame surrounding it, which in a few moments heats it sufficiently to vaporise the spirit reaching it along the feed-pipe, which at this point is packed with fine wire gauze or a plate perforated with small holes, on the principle of the "Davy" safety lamp, to prevent ignition of the vapor or the liquid in the tube. The tap being now opened the heated spirit vapor escapes through the jet, where it is ignited, and continues to flow until the supply of spirit in the reservoir is exhausted, about eight fluid ounces of the latter being sufficient for an hour and a half's consumption. The very hot and faintly luminous flame thus produced is caused to impinge on a small incandescent mantle, which is rendered brilliantly luminous and gives a very steady light, though the area of illuminated surface is still somewhat large for the purpose of concentration on a very small object. Such a lamp may be obtained complete for from fifteen to thirty shillings. A still more powerful illuminant, and the one perhaps most likely to be suitable for the purpose specially in view, is the acetylene gas already referred to, which is evolved by the action of cold water on calcium carbide, a substance now readily obtained at a moderate cost, but one which needs to be kept, until required for use, in hermetically sealed tins, since the presence of moisture immediately causes the gas to be evolved, an occurrence which very speedily makes itself known by the extremely pungent and offensive odour it possesses, and by its irritating and pernicious effect upon the lungs and the human system generally. Special care is therefore necessary to prevent the escape of any of this gas into the air of the room in which it is used, a very slight escape being more than sufficient to produce the results indicated.

A generator constructed on the principle of the gas holders in use at the gasworks in our towns can be obtained in a portable form at a cost of twenty to thirty shillings, according to pattern and capacity. The carbide is placed in a closed vessel or drum, into which water is permitted to enter. This coming into contact with the carbide causes the gas to be generated and to fill the holder, which, rising as it fills, lifts the carbide out of the reach of the water, and causes the production of gas to cease until the stop cock leading to the burner is opened, when the escape of the gas as it is consumed permits the holder to descend, the carbide again to come in contact with the water, and the production of gas to be resumed, the process thus going on automatically until the charge is exhausted; and the burner being supplied with gas at a uniform pressure as long as the process goes on. The jet used with this description of generator consists of two, three, or four burners placed one behind the other, resembling ordinary gas burners, but giving a much smaller and more brilliant flame, the four burner pattern being said to give a light equal to that of two to three hundred standard candles when used to its utmost capacity. Such jets may be obtained from Mr. W. C. Hughes and other leading makers, at a cost of from eight to sixteen shillings, according to pattern and number of burners, the latter being placed in the focal axis of a cylindrical reflector, to utilise as much of the light as possible, and supplied with screw-down valves to regulate the supply of gas, so as to secure the maximum illumination without smoking or escape of gas. With a well-constructed generator and a jet of the kind supplied by the best makers, a uniform supply of gas can be secured without any escaping to cause any unpleasant odour or other inconvenience to the spectators. Such an illuminant may answer very fairly well for microscopic photography, or for demonstrations to a few persons on a small disc and in a perfectly dark room, but for operations on a larger scale and in the presence of a public audience, recourse must be had to the oxy-hydrogen light or the electric arc, if any presentable results are to be obtained either with the microscope or polariscope, the loss of light in the use of either of these instruments being so considerable for reasons already given. Space will not permit us to deal with these methods of illumination in the present article; their consideration, with that of the experiments to be performed and the details of manipulation and accessories required, must be reserved for another occasion.

A LETTER FROM MR. URBAN.

Sir,—Mr. Pepper's article on the "Existing Evils of the Animated Picture Trade," published in the October issue of your journal, interested me very much. I congratulate you upon your courage for inserting Mr. Pepper's paper, which, no doubt, hits many. Other so-called journalistic mediums devoted to the cinematograph trade would have flinched from publishing an article which so ably deals with the present situation, in fear of offending some of their advertisers whom the "cap fitted." Although extremely preoccupied with the many details of our business, I should, nevertheless, be pleased to "start the ball rolling" towards a better understanding between the seriously minded members of our trade, who would agree to stringently carry out any arrangements decided upon for the general betterment and elevation of the picture business. I hope that the next article promised by Mr. Pepper on "Film and Machine Hiring" will "hit as straight from the shoulder" as his previous paper.—Yours, etc., C. URBAN, Managing Director, The Charles Urban Trading Co., Ltd.

MANŒUVRES OF CRIMEAN VETERANS.

(By the Warwick Trading Co.)

THE MONTH'S NEW FILMS.

THE days are quickly shortening and the taking of new subjects is nothing more than a gamble between the man with the camera and the clerk of the weather. It is no longer possible to arrange to take a staged subject, involving the engagement of fifteen or twenty artistes, with the reasonable hope that on the appointed day the sun will be shining, and that everything will be carried through without a hitch. Under these circumstances it is a matter of congratulation to learn that the different manufacturers have been making films while the sun shone, and that there are a great number of new subjects ready for the market as the demand arises. We have been favored with a view of a number of advanced copies of these films, and the majority of them seem, in point of quality and interest, in advance of any we have already reviewed. The occurrences of the past month have not been of a character to set the Thames on fire, but such public functions as the opening of Kingsway received due attention from the various "animated journalists," and, in many cases, were exhibited the same evening.

MESSRS. PATHÉ FRERES are offering a number of beautiful subjects, which are on a par with their previous productions for steadiness and photographic excellence. Among the best we would select "An Impractible Journey," "Behind the Stage," and a fine "Zoological Series," the latter being much improved by the tinted effects introduced.

Mr. R. W. PAUL seems to have struck a fresh vein of humor, and his films called "Short-sighted Sammy," "The Mad Barber and his Hair Restorer," and "The Visions of an Opium Eater," are likely to cause many of our readers to pay a visit to his London office in High Holborn.

A very interesting series of railway pictures, entitled "Railway Life," was also procured by Mr. PAUL. The views were taken at Doncaster and Peterborough, by the courtesy of the Great Northern Railway Co., and comprise a panoramic view from one end to the other of the erecting shop; the hoisting of a thirty-seven ton engine, which is afterwards

carried down the shop by means of the traveller. The next view is what many people know and call a signal box, and we see the signalman actuating the signals and working the telegraph instruments one after another. This is followed by a photograph of the signals. The concluding picture in this length shows a train travelling at 60 miles an hour over a water trough, taking up no less than 2,000 gallons of water. This film will refresh any programme, being a unique and novel little collection of pictures. It is supplied in a length that does not make it long and wearisome, but smart and interesting, namely, 200 ft.

The Charles Urban Trading Co. have most thoroughly worked out the idea of "The Prodigal Son" with twentieth century surroundings, and we can confidentially recommend it to showmen looking for a good subject with strong moral undertone. We are pleased to see that by the courtesy of Mr. Beerbohm Tree they have secured a representation of the Shipwreck Scene in the Tempest as performed at Her Majesty's Theatre.

The Urban Co., on the first of this present mouth, produced at the Alhambra three new picture series, which touch upon certain social phases of a source of one of our food supplies. It is interesting to learn that for four weeks the long railway series held vast audiences spell-bound for forty minutes, proving that the public takes an interest in semi-educational subjects when properly "dished-up" for them. Forty minutes is a long time for an exhibit at a principal London music hall, especially on a subject in which there is no possibility of introducing humourous incidents.

The Sheffield Photo Co. are coming out with a new subject called "The Life of Charles Peace," and whilst it is a matter of regret that it should closely follow a film with a similar title issued by another firm, these gentlemen inform us that they have been working on the subject for a considerable time, and that the scenes are original and totally distinct from the one already referred to. Officials who had charge of the case have been interviewed with the object of getting the details as correct as possible. The Banner Cross murder and Peace's sensational leap from the train were taken on the actual spots. By a strange coincidence the same engine driver was driving the train who conveyed Peace from London to Sheffield, when he made this sensational attempt to escape.

The Clarendon Film Co. have another success called "Father's Birthday Cheese," which is meeting with public approbation, and is fully equal to any of their previous productions.

For genuine pathos and interest commend us to Gaumont & Co.'s "Message from the Sea," which is a splendid idea capitally worked out, and it is a wonder that the subject was not taken long ago, whilst their film shewing the incidents connected with the funeral of the late Sir Henry Irving is unique, and is the only cinematograph record of this sad event.

The Warwick Trading Co. have brought out a capital film called "The Terror of the Neighbourhood," which show a hooligan who has a weakness for knocking his wife about, being well thrashed and rendered insensible by a hospital nurse, who is no mean boxer, and then being carefully nursed back to health and strength by the same nurse who was the cause of the damage, and at the climax of the the subject "The Terror" is reformed and earning an honest living. This film is both humourous and pathetic at the same time. This firm has also a very good film of "The Crimean Veterans," who fought for France, as our allies in the Crimean war against Russia, and it is most interesting to note the precision with which they execute various military evolutions, attired in the old uniforms that they carried so bravely in 1854. We are pleased to be able to give a reproduction from one of the photographs in this subject.

THE MONTHLY CARTOON.

Illustrated Interviews. No. 6.

THE SECRETARY.

MR. CHARLES WAKELY.

FIFTY YEARS OF LANTERN WORK.

A Chat with the Officials of the United Kingdom Band of Hope Union.

THERE are two popular uses to which the optical lantern is put: On the one hand it provides amusement for the people, and on the other it is utilised to give instruction. No Society uses the lantern to better effect for both amusement and education than the United Kingdom Band of Hope Union. The truth of this is proved by a visit to the premises of the Society in the Old Bailey. Here our representative found the courteous secretary, Mr. Chas. Wakely, and the ubiquitous trade manager, Mr. Judson Bonner, and they kindly agreed to give the readers of the OPTICAL LANTERN JOURNAL information regarding the lantern work of the Society.

It is just fifty years since the Society first used the lantern to promulgate their cause, and naturally the officials were eloquent about the excellent work that had been done. Perhaps it will not be amiss to glance back to the time when the Society realised the importance of the lantern as an aid in their self-imposed task of instilling temperance truths into the young. The idea of conveying instruction to the little ones through the medium of the eye as well as the ear was recognised as a good one, so two lectures were prepared and lantern slides were used to illustrate them. Although so long ago, it is interesting to note that these identical lectures are still being asked for. The slides used cannot, of course, be compared with the beautiful productions of the present day, the designs being crude, and the general effect poor. These lectures, aided by the pictures, proved so successful that other subjects were speedily added, until at the present date there are twenty-two sets of slides for the lecturer to select from.

During these fifty years upwards of 12,300 lantern lectures have been given by the Society's own agents, while through the publication department many thousands of slides have been issued on sale or return for use by various subsidiary Unions and Societies. Not only has the Union provided its own societies, numbering some 29,000, with this form of entertainment and instruction, but they have been pioneers of pictorial teaching

by means of the lantern in places where exhibitions of this class had never before been seen. Many of the capitals of Europe have thus been visited, and, with the assistance of Mr. Frank Adkins and Mr. Bonner, the secretary, Mr. Wakely, has given lectures and exhibitions to large and appreciative audiences in Christiana, Stockholm, Antwerp, Brussels, Bale, Geneva, Vienna, the Hague, and Budapest. Thus, this teaching has by the lantern been introduced into no fewer than

PREMISES OF THE BAND OF HOPE UNION, OLD BAILEY.

eight Continental countries, in most cases in connection with International Congresses, at which delegates have been present from every part of Europe. These delegates, stimulated by the success of the exhibitions, have carried the lantern propaganda into their respective countries, in many instances securing their stock of lanterns and slides from England. The amount of temperance and religious instruction spread in this manner, and its far-reaching value, it is impossible to calculate.

Another important branch of the work is the visitation of remote villages by that specially qualified lanternist and lecturer, Mr. Frank Adkins. Through the instrumentality of this gentleman, the Union convey to the most outlying districts impressive lessons on temperance, and in many cases these illustrated lectures have proved a veritable revelation to country dwellers. One point specially referred to by the Secretary is the interesting fact that pictures of the greatest artistic merit are invariably most appreciated by rustic audiences. In this work many difficulties have had to be overcome, not the least being that of providing adequate light for the projection of the pictures; this Mr.

MR. BONNER, TRADE MANAGER, U.K.B.H. UNION.

Adkins has practically surmounted by the adoption of the ether saturator.

Another special agency is that of carrying the lantern into poor-law schools and philanthropic institutions. From the earliest years a large number of these institutions have been visited free of charge, and many thousands of children who receive little pleasure in life, and who are especially exposed to the temptations of drink, have been given innocent entertainment, whilst at the same time they have been warned against the miseries and evils of intemperance.

We now turn from the philanthropic to the trading department of the Union,

where during the past few years a large business has been done in the sale of slides and lanterns, and in the loan of lecture sets for the use of societies and private individuals. By this means the lantern assists in imparting instruction of the highest and most helpful character. The development of this branch of the work is largely due to the trade manager, Mr. Bonner, whose eye is always open and his senses keen in the pursuit of new subjects suitable for illustrating by the lantern. In his various Continental journeys Mr. Bonner takes his photographic apparatus, and while visiting Budapest this year, he secured over 100 pictures, the greater number of which will be introduced into lectures.

"HOW I BEGAN."
ILLUSTRATING "CHILDREN'S PERIL" SERIES.

The mode of preparing a set of slides for a lecture varies considerably. It is not often that the camera alone is relied upon for the picture. The Society employs a number of artists who provide black and white sketches, adapted for the lantern. In other cases a composite picture is obtained, the artist drawing the surroundings while the camera is utilised to fill in the touch of life so essential to certain slides.

It is interesting to note that, according to Mr. Bonner, there is little chance of the Cinematograph superseding the lantern; but he considers that the one will ultimately become a valuable adjunct to the other. If there were more films on religious and temperance subjects he is certain they could be used effectively and profitably. At present the Union only use the Cinematograph for providing amusement, but for educational purposes the lantern is preferred. The lantern materially assisted the passing of the Bill for the Prevention of the Sale of Intoxicants to Children. Naturally the Bill had the strong support of the Band of Hope Union, who prepared a set of slides to illustrate a lecture entitled "The Children's peril," one of the slides of which we reproduce. This lecture was given all over the country, and aroused public interest, and contributed in a great measure to the success of the measure. The other picture on this page is one of a series used to illustrate a recitation, "The Wreck of the Schiller."

WRECK OF THE "SCHILLER."
ILLUSTRATING TEMPERANCE RECITATION SERIES.

In a journey over the building our representative was impressed with the intelligent method which seemed the leading characteristic of each department. In the warehouses, packing rooms, offices, and show rooms, time and labour-saving devices met the eye, and amply demonstrated the thorough and careful supervision of the manager. As one looked at the admirable stock, and the up-to-date arrangements throughout the building, one could not help being struck with the enormous progress the Band of Hope Union has made since its commencement, —and not the least noteworthy has been the expansion in the work connected with the Optical Lantern.

Patents.

No. 13,452. Moving Pictures. FARRAND, H. A., 542 West 156th Street, Manhattan, New York, U.S.A. June 14.

The effect of moving pictures is produced by means of a series of moving bands 2, Fig. 1, arranged in a frame 1, the bands being marked in such a manner that, as they are rotated, they successively form pictures, the combined effect of which is similar to that produced by a kinematograph. The bands 2 may be arranged in various ways. As shown in Fig. 2, series of endless bands pass around blocks 4 at the front of the frame 1, and around rollers 5, driven by motors, etc. Each band may be driven at an independent speed, or all the bands may be driven from one motor, and in this case the faces of the blocks 4 are straight instead of being rounded. Fig. 5 shows the bands passing around rollers 12 at the front of the frame, the upper two bands being driven in unison. An endless band passing around rollers 15, 16, 17 is also used. Fig. 6 shows two bands attached to rollers 18, 19, and passing around oval-shaped blocks 20 at the front of the frame. The bands may be reciprocated by any suitable means. Or the bands may be attached at one end to front rollers, and the other end be connected to a reciprocating slide. Or one band may be attached to two front rollers, and pass around an intermediate roller, so that, as the band is unwound from one of the front rollers, it is wound around the other. Or one band may be attached to a front roller and to a driving roller. As shown in Fig. 7, the bands pass around front rollers 21, the ends of the bands being attached to counterbalance springs 22, so as to permit the rollers to be kept tightly in position while being reciprocated. Or the spring 22 may be replaced by weights or cords, etc., passing over pulleys.

FIG. 1.

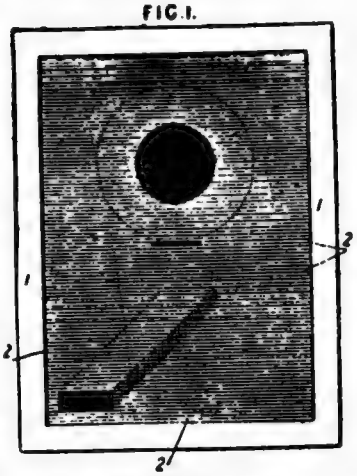


FIG. 5.

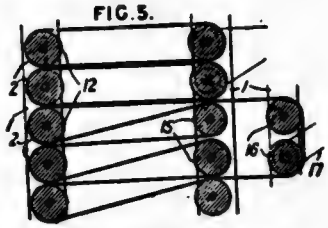


FIG. 6.

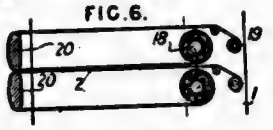


FIG 7.

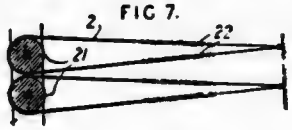
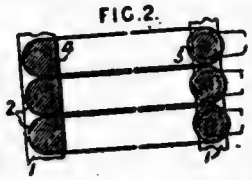


FIG. 2.



Round and About.

The Chronophone Outfit,

Consisting of the complete apparatus, with six films and disc records, is listed at £250 net cash.

The Oyster

Does not suggest a very suitable subject for "filming," yet the Urban Company's latest film on this industry is highly interesting and instructive.

The New Century Company's

Policy of continual change of films at the Leeds Coliseum is having its reward, as good "houses" are the order of the day.

F. C. G's. Cartoons

Have entered another phase, and can now be obtained as lantern slides. Should there be a general election shortly, there will be a big demand for these amusing sketches.

The Rationalist Press Association

Have arranged lantern lectures on evolution and cognate subjects at Masonic Hall, Camberwell, South Place Institute, Finsbury, and Essex Hall, Strand.

The Sultan of Morocco

Has gone in strongly for the optical lantern and photography, although the law of the prophet forbids the making of images in human form. He is an adept in "the box of Satan," as his followers style the camera.

Mr. A. J. West

Again opened, on the 16th inst., at the Polytechnic, Regent-street, his eighth annual entertainment. The general features are well known, and the entertainment is instructive and calculated to promote a manly and patriotic spirit. There are nearly three dozen turns each afternoon, 15,000 ft. of film being used for each.

Two Theatres Destroyed.

During a cinematograph exhibition at Figueira da Foez, in Portugal, early this month, in one of the theatres, the film caught fire and enveloped in flames the entire apparatus. Then the flames spread to the structure of the building, and in time the premises adjoining were involved and practically destroyed. No loss of life has been reported, but the damage done was extensive.

Bristol.

The North American Animated Photo Co. are at Colston Hall again with a new programme of films.

Liverpool.

"Rescued by Rover," recently put on by the New Century Animated Picture Co., has proved a good draw.

Nottingham.

The North American Animated Photo Co. have been doing good business at the Mechanics' Hall during their autumn season of a fortnight.

Kingston Photographic Society.

The syllabus of the first half-season of the Kingston Photographic Society contains features of special interest. Arrangements have been made for a course of six lectures by Mr. J. Tims. Mr. J. F. East, J.P., who since last year has spent six months in Africa, has promised to give a lecture on "The Victoria Falls." on Nov. 20, when he will exhibit a large number of slides which he secured during his visit to the Falls.

Scotland.

Cinematograph entertainments are very popular, and the films of the recent review are much in evidence. At Edinburgh, shows are given at the Synod Hall. the Operetta House, and the Central Hall, where Messrs. Fraser & Elrick are well patronised. At Aberdeen, Calder's pictures have been exhibited at the Y.M.C.A. Hall, and the Royal Imperial Picture Co. have done well at the Trades Hall, and Messrs. Walker & Co. at the Music Hall. In Dundee we find Mr. Calder at two halls—the Foresters and Giljillan, and at Perth Messrs. Walker & Co. have been at the City Hall.

Mr. F. Martin-Duncan

Notifies that he is prepared to lecture on one or two subjects during the present season. The lectures at present arranged are "Pond Life," "Denizens of the Deep," "Devil Fish and Kraken," and "Flesh-feeding Plants," and "With Microscope and Camera." Appropriate selections from the marvellous series of animated pictures taken by Mr. Duncan with the Urban-Duncan micro-bioscope, can be included by special arrangement.

Cinematograph as an aid to theft.

A remarkable statement was recently made to a Manchester detective who had caught three boys in the act of breaking into a shop. The officer was concealed on the premises (which had been broken into before) when the boys entered by a very clever method. Being struck with their expertness, he asked where they had learnt the "tricks of the trade." They explained that the way they got in was identical with a shop-breaking affair which they had seen demonstrated at a music-hall by means of the cinematograph. It seems that they first got through a skylight, not by breaking the glass, but by removing it very carefully.

Urbanora at Newcastle.

Until a few days back Olympia at this northern city was not held in very high respect by the inhabitants, but Mr. Urban decided to make it the first provincial home for Urbanora. Redecoration, reseating, draughts annihilated and heating introduced, and much thought and expense, have turned it into a resort of which the most fastidious would have difficulty in finding fault. The bulk of the entertainment consists of the living pictures, which are enhanced by the explanatory descriptions of Mr. Linden Travers. The show has caught on, and Newcastle people are congratulating themselves on so excellent an addition to their amusements.

Nottingham Goose Fair.

Cinematograph exhibitions were in strong force at Nottingham Goose Fair, among those present being Messrs. Kemp, Proctor, Collins, Twigdon, Lawrence and Payne. Everyone knows that fair ground work is of a very arduous nature, and only reliable well-constructed machines will stand the strain; while the competition is so keen and the exhibition generally of such high-class nature at the present day, that every exhibitor who wishes to hold a place in the front rank must be equipped with a machine which gives the best result on the screen, and is practically the most efficient. The significant fact in connection with the Nottingham Goose Fair that most of the machines were of the make of Gaumont points to the Gaumont Professional Chrono as being the one machine possessing these qualities.

Answers to Queries.

31 **Lecturing.**—Buddist should have a supply of prospectuses printed, giving full particulars of the two lectures he has for delivery; and stating terms for engagements. A copy should be sent to each of the clubs, guilds, and various societies of district. Secretaries are just about calling their general meetings, prior to the election of committees for the coming winter; if a copy of prospectus is in their hands, at the first committee meeting, there should be a good chance of one engagement during the session, at least, providing the subject is of interest and the fees not high. Buddist is probably requiring experience in public, he should therefore be content with a very low sum as payment.—A GUILD SECRETARY.

Queries.

32 **Best Light.**—Which will be the best light for lantern exhibition purposes; the four wick oil lamp, or a two jet acetylene gas light?—MORCEAU.

33 **Mechanical Process Lantern Slides.**—Can any reader inform me where I can obtain Woodbury-type process lantern slide pictures. Also are there any other methods beside transfer, and photographic for the production of slides.—A.M.

34 Can any reader give me the address of an engineer who would carry out a scheme and make models of a new form of projector of which I have designs, on a profit sharing basis, if successful?—DEAS.

NEW SLIDES AND LANTERN LECTURES.

At a gathering of the members of the Keighley Photographic Society recently, a lecture was given by Mr. F. Rust, of Leeds, on "The Making of Enlarged Negatives."

No better means of obtaining interest in philanthropic work among the outcast could be obtained than Mr. L. H. Tatham's lecture and slides on "How London Lives," recently delivered at Kennington.

Lantern slides, showing places of interest on the London and North-Western route, are available for the purpose of illustrating lectures, evening entertainments, &c. The slides show practically every phase of past and present railway work, and number close upon 400.

Messrs. Eyre & Spottiswoode lend three new lectures and slides this season. The subjects are as follows:—"The Story of the Pianoforte—Its Ancestors and Perfectors," "The Food of the Gods—or How Britain is Provided with Cocoa," and "The Romance of the Picture Postcard."

"Savage Europe" was the title of a lecture given at the Royal Societies's Club by Mr. Harry de Windt, who showed living pictures depicting the Servian officers who murdered their King and Queen; also a biograph view of the streets of Warsaw ten minutes before the great massacre.

The Midland Railway Co. has issued a list of slides they are prepared to lend during the season, free of charge. Descriptive readings are supplied with the slides. The list embraces views in Scotland and the North, North of Ireland, Yorkshire, Midland Counties, Western Towns, the Peak of Derbyshire, Eastern Counties, Morecambe and Lake District, and a variety of miscellaneous views.

The organisers of Mission Services, Christian Endeavour Meetings, Revival Services, &c., have in many cases adopted the lantern to show the hymns on the screen, and find that the novelty rivets the attention of the congregations, and is a big advantage over the old hymn book or leaflet, as the words are easily read by both old and young. Messrs. Butcher & Son recognise this new method by introducing suitable slides. Their latest are prepared by a new process, which enables them to offer them at the low price of 2d. each. Such hymns as the Torrey-Alexander revival hymns and others are in large demand, and the clear type of both words and music undoubtedly adds to their attractiveness.

Natural History for all.—In one of his most popular works Ruskin says that the vital and joyful study of Natural History is quite the principal element requiring introduction, not only into Universities, but into national education from highest to lowest. Since then, educationalists have given more and more attention to the subject, with the result that special schools have been opened in certain centres for the teaching of nature subjects. Apart from its educational advantage the study of Narural History has a fascination that appeals to all ages and to all temperaments, being, in consequence, one of the most welcome items in the school curriculum. Quite the best means of impressing the subject on the youthful mind is by means of lantern demonstrations, but hitherto the colored slides for the purpose have been extremely costly and without continuity. Messrs. W. Butcher & Sons have therefore introduced a large number of Natural History slides, which have received most careful consideration in the colouring, so as to get it as true to nature as possible. British butterflies and moths, birds, reptiles, sea and wild animals are each exhaustively represented, and are supplied in boxes of eight slides.

Southampton Camera Club.—Mr. V. E. Morris lectured on the "Art of Lantern Slide Making," to the members of the above, on the 23rd ult, Mr. Morris said in the best slides it was possible to obtain better tone gradation than in any print. He pointed out that the slightest defect in the slide was magnified on the screen to a serious blemish, and mentioned that in spotting black slides or negatives he had found, in spite of advice to the contrary, that a soft lead pencil, preferably a B.B. was the best means, since it enabled him to deal with the defect without the usual medium. It was suggested that a negative of which correct exposures was to be found should be exposed in sections, 10 seconds one strip, the next 20, up to 40 for the fourth strip, and then, under normal conditions, the right exposure would be ascertained. In development, it was recommended that for black tones sufficient progress had been made when high lights began to veil, and warning was given that in warm-tone slide-making over-development was easily reached. When reduction was needed in the slide, great care was to be taken that the slide be quite clear of reducer before being held to light for examination. In the matter of putting in cloud negatives, which Mr. Morris fully demonstrated, the method recommended was to have the development done on the slide itself, when making warm toned slides for the consideration of getting proper tones, and on the cover glass when making black-toned slides.

An interesting lecture—the second of the series held under the auspices of the Nottingham University College—was recently delivered by Mr. A. H. Simpson, F.R.M.S. The subject was "The Magic Lantern: Its Evolution and Use in Teaching." Mr. Simpson endeavoured to show the use to which projections might be put in teaching of kindergarten school children. He dealt with the subject from the point of view of its educational utility, and demonstrated the art of lecture illustrating from the simplest shadowgraphy to the complex results obtained by the most modern of optical projection apparatus. The selection of suitable sources of life and screens, he explained, led to shadow projections of chemical, mechanical, and physical apparatus, and the amusing actions of certain household pets suggested a new method for the kindergarten study of natural history. In support of this, the lecturer showed a number of living objects on the screen, the best results being obtained from opaque objects with their natural colours. In obtaining these results, Mr. Simpson made use of an entirely new projecting apparatus on which he has been engaged for some time, and showed a number of instantaneous photographs, the value of which in the study of natural history he strongly impressed upon his auditors. For the purpose of illustrating the lecture, at least seven powerful electric arc-lanterns were employed, in addition to numerous other pieces of apparatus.

ANOTHER FIRE-EXTINGUISHING DEVICE.

JOY'S FIREPROOF ANIMATED PHOTO PROJECTOR.

WE are always pleased to record any invention which possesses merit and practical utility, and therefore give the following details of Mr. Joy's fireproof method of extinguishing a burning film.

Recognising that delicate mechanism is likely to stick in working, or not to work at the precise moment required, Mr. Joy has tackled the problem by doing away with all such mechanism, and deals directly with the fact that celluloid will not burn unless fed with an ample supply of air. Should the film be allowed to remain longer than its specified time, exposed to the concentrated rays of the illuminant, one picture only is allowed to burn, leaving the perforations on either side, and the preceding and following portions of the film complete, as shown in Fig. 1, *A* representing the burnt out portion. In this way the progress of the film through the projector is never interrupted; an advantage of no small importance.

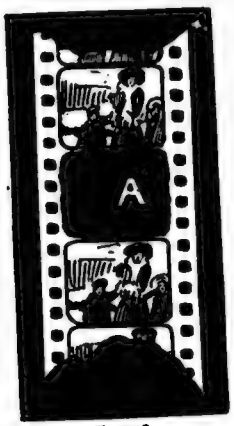


FIG. 1.

This instantaneous blowing out of the fire is accomplished in the following manner. Reference being made to figure 2, the lens jacket is so constructed that it forms an air-tight cavity *a*. This is done by its being closed at one end with the detachable lens *b*, and at the opposite end by the film *c c* placed in position at the exposure hole *d*. *e e* is a brass or metal door, pressing on the film *c c* in order to keep the latter in focus, and also to keep the exposure hole *d* covered by the film. The actual contact between the film and the door *e e* takes place on the perforations only, a small channel being provided at *g g* to allow the picture surface to pass through the projector without injury by scratching. The very small amount of air in the channels *g g* will not allow combustion to creep past its length. The air contained in the cavity formed *a A* is considerably expanded by the heat generated, and immediately the film fires in the exposure hole *d*, an outlet is thus provided for the compressed air to escape, which it does with a great rush, blowing out the flame on the edges of the burning hole in the film. The spread of the fire is further safeguarded against, by means of a specially constructed gate, which covers the film round the exposure hole as closely as possible without touching, so forming a short channel too

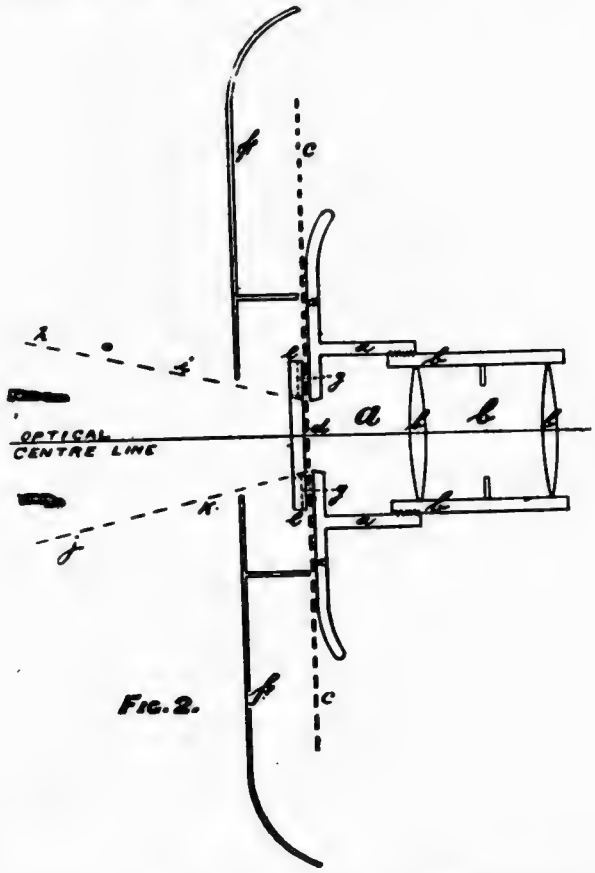


FIG. 2.

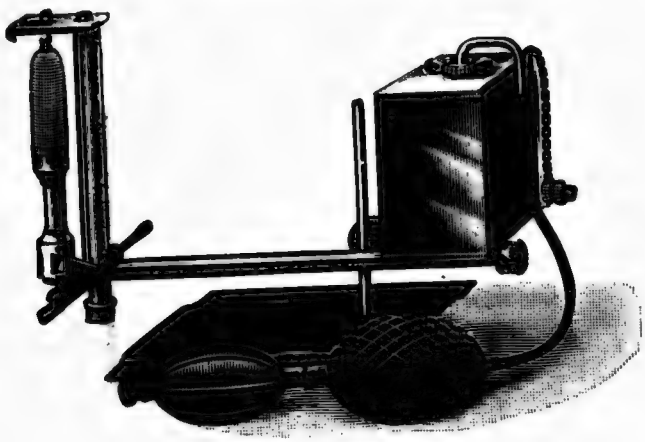
confined for the passage of sufficient air to induce further burning of the film.

We have tried the burning of the film with a range of from 20 to 70 amperes on the lamps, and have found it to act to perfection in all cases. Trials have also demonstrated that the hotter the light the quicker and cleaner is the result. The hole burnt out being completely carried away, leaving no ash or dirt for the film to travel through.

It should be remarked that this method of fire extinguishing does not require the spools of film, or the machine to be enclosed in any iron protections whatever.

W. Butcher & Sons, Farringdon Avenue.

One is struck with the ability shown in compiling the catalogues and literature emanating from this firm. Method, tact, and excellent judgment are exhibited in arranging, the hundreds of good things for which this firm are now famous. The same capability is shown by the "Primus" Lanternist's Pocket Book and Diary, which is a compendium of all that is unique to the lanternist, and should be in large demand. Instructions for electric light, the voltages and systems in various towns, directions and tables for lenses, gas tables and useful hints, railway regulations, requirements, engagement diary, enlargement tables, gas record table, list of own



slides and those borrowed, and a directory of dealers are some of the contents, which go to make up a handy size pocket volume. This firm have recently produced a high pressure spirit lamp, at the low price of 15/-. We give an illustration of it. The reservoir holds eight ounces of methylated spirit, and, instead of the usual wicks, special asbestos tubing is used. The reservoir being constructed outside the body of the lantern, damage from overheating is avoided.

The Autoscope Co., 50, Gray's Inn Road,

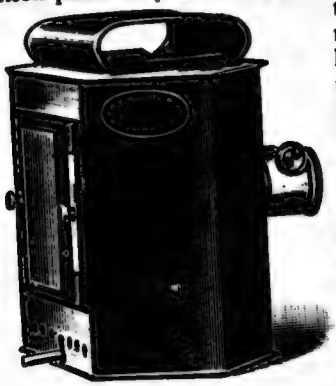
Who are well known in connection with the pictures at the Palace Theatre, have forwarded their new list of films, machines, and accessories. The films include a wonderful range of subjects, all lengths and prices. They make a special point of supplying on the gradual payment system. This firm have recently done smart work in securing pictures and producing them at the Palace on the same evening. This was notable when the King laid the foundation stone of the Post Office, the opening of Kingsway, and the Nelson celebrations in Trafalgar Square. Each were shown within a few hours of occurring.

The Walturdaw Co., Ltd., of Dean Street,

Have just issued one of the most useful lists we have yet met, called "The Book of the Bioscope." It is carefully divided into the following sections:—Bioscopes and accessories; optical lanterns; light—electric, limelight, acetylene, Walturdaw, Nernst, and oil and spirit; photographic. Although taking the form of a list, giving the prices and particulars of the many good things for which this firm is famous, most useful information is in its pages.

Hughes & Co., Brewster House, Mortimer Road, N.,

Have several novelties for the season, chief amongst which we specially notice an ingenious little lantern, by which pictorial post cards, portraits, Christmas cards, or, indeed, any small pictures may be projected direct upon the sheet without the aid of slides. The lantern is neat and portable, and the mode of operating very simple. An ordinary gas jet may be used to supply the light, by a tube connection to two incandescent burners inside the lantern. The pictures projected on the sheet from an ordinary post card are enlarged to about three feet square, the colours and general effects being faithfully reproduced. The whole outfit has the additional advantage of being cheap, being supplied at the low price of 25/-. The "Featherweight" Lantern should also prove popular. The special feature is its extreme lightness, being only three pounds in weight. The materials used are thin iron for the body, with aluminium fittings. It is not collapsible, but a well-made substantial lantern, selling at the modest price of 80/- complete. Amongst the generators may be particularised a new style of the "Imperial" type, in tank form, having no outside projections, and being easily carried by a small handle at the top. This firm have just issued a new catalogue, which should be in the hands of all lanternists.



Houghton & Sons, Holborn.

One of this firm's novelties this month is the "Queen" Enlarging Lantern," which is made entirely at the firm's own works, and has many advantages to recommend it. It is exceptionally cheap, and is well made and effective. The baseboard is of mahogany, and a sliding extension of eight inches can be obtained for focussing. The body, condenser hood, and chimney are of iron, whilst the duplex oil burner is supported on a japanned iron stand. An important feature is a portrait lens with a rack and pinion movement for fine focussing, which is specially selected and corrected. Our illustration in advertising pages shows the Enlarger with bellows

extended capacity 9½ ins. The "Briton" Daylight Enlarger is another of Houghton's specialities, and should prove a good selling line. It is a cheap box form Enlarger constructed of wood, and covered in a hard leather grained material. It is claimed to be sound, serviceable, and absolutely reliable. Each size made has a carrier for a 3½ by 3½ in. plate. There is a simple plunge shutter for the lens, and it can be easily ascertained whether the lens is open or not. The results obtainable are always satisfactory.

Williamson, Wilbury Road, Hove.

In the two lists received, we discover many films that have been huge successes. This firm is determined to hold its position for the quality of its products, and its equipment is unique. The buildings comprise a large glass-covered theatre, with scenery, properties, and performers moving on rails into the open, flush with the surrounding ground, when more light or a larger floor area are required. The factory comprises warehouse, developing room, film-washing room, laboratory, etc.

The "Palace Perfect Projector" Lantern

Is one of the latest productions of Messrs. Wrench, and, from a close inspection, we consider it one of the best on the market. Every attention has been given to make it strong and reliable, and at the same time safe. This firm have also a special "Tripod Stand for Cinematograph Cameras," which is light in weight, yet perfectly rigid when extended to its full six feet, and is supplied with revolving head and tilting table, an ingenious device which enables the operator not only to follow a descending or ascending object, but will allow him to have his camera at a height of six feet or more, and take a complete circular panoramic view, whilst his camera is tilted at any angle. The whole can be taken down or set up in a few seconds, and when closed ready for carrying the length is 43 inches, whilst the weight (without tilting top) is merely 12¼ pounds.

Stereoscopic Notes.

CONDUCTED BY THEODORE BROWN.

Breton's Clockwork Stereoscope.

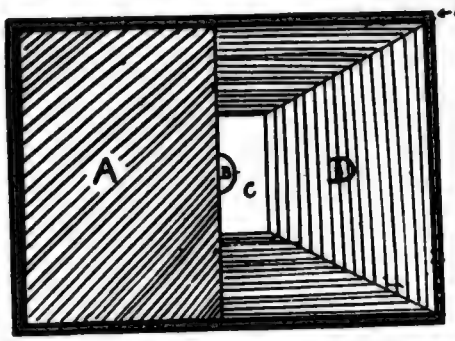
Mr. Breton has devised clockwork apparatus for exhibiting, one at a time, a series of stereoscopic views. The views are hinged to rods which pass through peripheral holes in two discs, forming what may be termed the edges of a reel. By means of a spring, the reel carrying the photos is made to turn about one-third revolution during the exhibition of the entire set. The movement is controlled by gearing, so that the views are brought slowly over the top in a vertical position, and are successively released from a catch after each view has been exhibited for a few moments. When the collection has been shown, a single backward movement of a lever carries the set into their original position, and rewinds the operating spring.

Combination Stereoscope and Phonograph.

Several devices have been suggested for the simultaneous reproduction of music and the exhibition of stereoscopic pictures; amongst the most ingenuous must be placed that of H. C. Matthews. The inventor has taken advantage of the slow horizontal travel of the reproducer along the record. Connected in a suitable manner with holder of the reproducer is an arm, which holds the series of stereoscopic slides in position previous to viewing. The edges of the cards are notched; and as the arm comes successively opposite these notches, one view at a time is allowed to drop over upon a rest situated in a convenient position for viewing.

Stereoscopy with One Lens.

Mr. A. J. Snow, the founder and secretary of the United Stereoscopic Society of Great Britain, sends us particulars as to how stereoscopic pictures



of still life subjects may be successfully produced. He says: "After focussing the subject in the centre of the screen, a piece of black cardboard (about half the size of half-plate) is inserted in the back portion of the bellows, as illustrated. By means of the turn-table (speaking of a camera fitted with turn-table) the camera is turned to the right sufficiently to focus the subject in the centre of the visible half side of the screen. The dark slide is then inserted and the exposure made. After withdrawing the dark slide, the camera is revolved to the left, and the subject refocussed with the black cardboard on the right side of the screen. The dark slide is again inserted, and another exposure (equal in time to the first) made. This will be found satisfactory for still life subjects, as flower studies and other near objects, and, if carried out with care, an excellent pair of pictures will result. The description of drawing is as follows: A, black cardboard; B, lens; C, back of camera front 'interior'; D, camera bellows; and E, camera back. It may be added that, in order to receive the two images on the sensitive plate so that they need no transposition, it is necessary, when covering the left side as at A (see diagrams), to turn the camera points in a left hand direction; and when covering the other half of the plate (that just exposed), it is necessary to point the camera in a right hand direction." We reproduce a specimen of Mr. Snow's work done in the way suggested, and the reader will find, on examining this in a stereoscope, that the relief obtained is neither exaggerated nor wanting in effect; but that each appear to take up their natural positions without distortion.

NEW FILMS.

No. 39.—Father's Picnic on the sands In six scenes of excellent quality and full of seaside humour. Length 256 ft. Price **£6 8s.**

No. 35.—Drink & Repentance. A Convict story in nine scenes. Exciting, pathetic and dramatic. Length 570 ft. Price **£14 5s.**

No. 30.—The Pilfered Porker. Tramp steals pig, exciting chase by crowd over ricks, gates, etc. Superb quality. Length 220 feet. Price **£5 10s.**

No. 36.—A Quarter Day Episode; or, Its cheaper to move than pay the rent. Full of humour and comic situations. Length 300 feet. Price **£7 10s.**

No. 32.—She WOULD Sing. A highly humourous film in five scenes Length 235 feet. Price **£5 17s. 6d.**

No. 40.—Seaside in London. A scene in Fulham Park. Length 130 ft. Price **£3 5s.**

No. 41.—The Elephant at the Picnic. Excellent Comic with beautiful scenery. Length 216 ft. Price **£5 8s.**

Write for Price Lists of the Queen Bioscope.
POST FREE BY RETURN.

CRICKS & SHARP,
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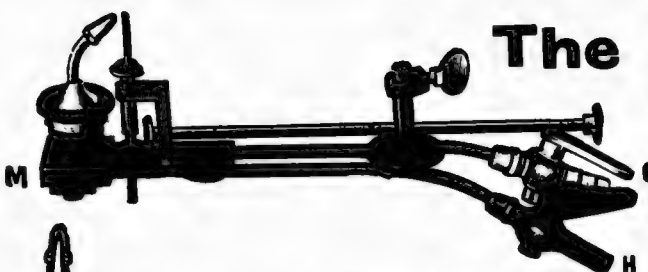

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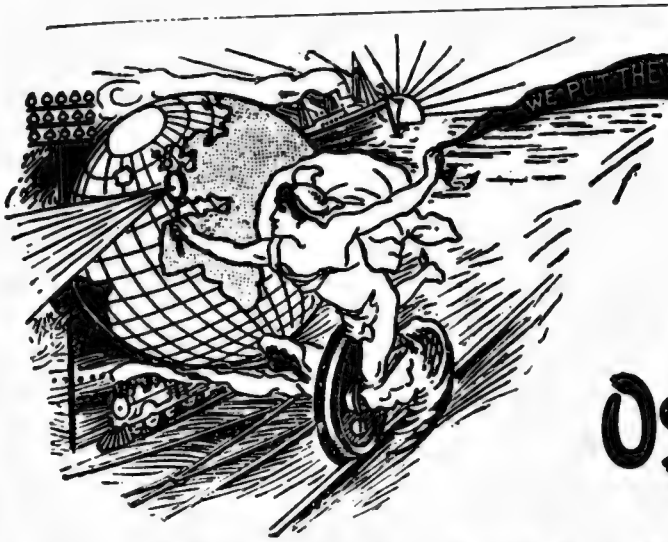

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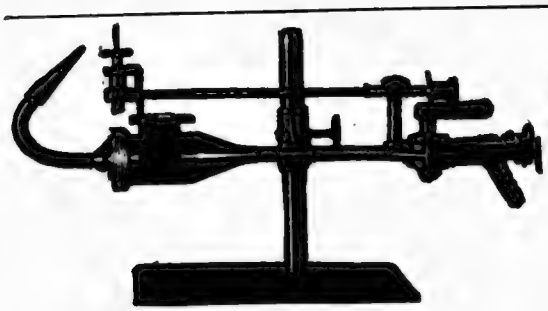

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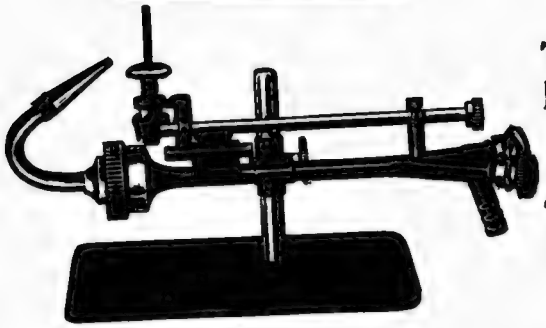

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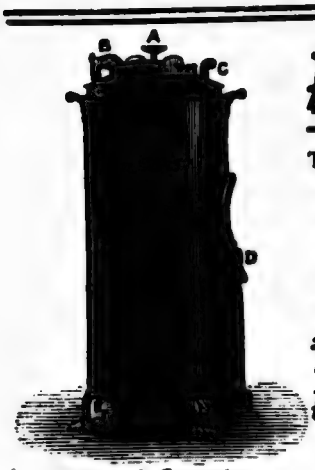

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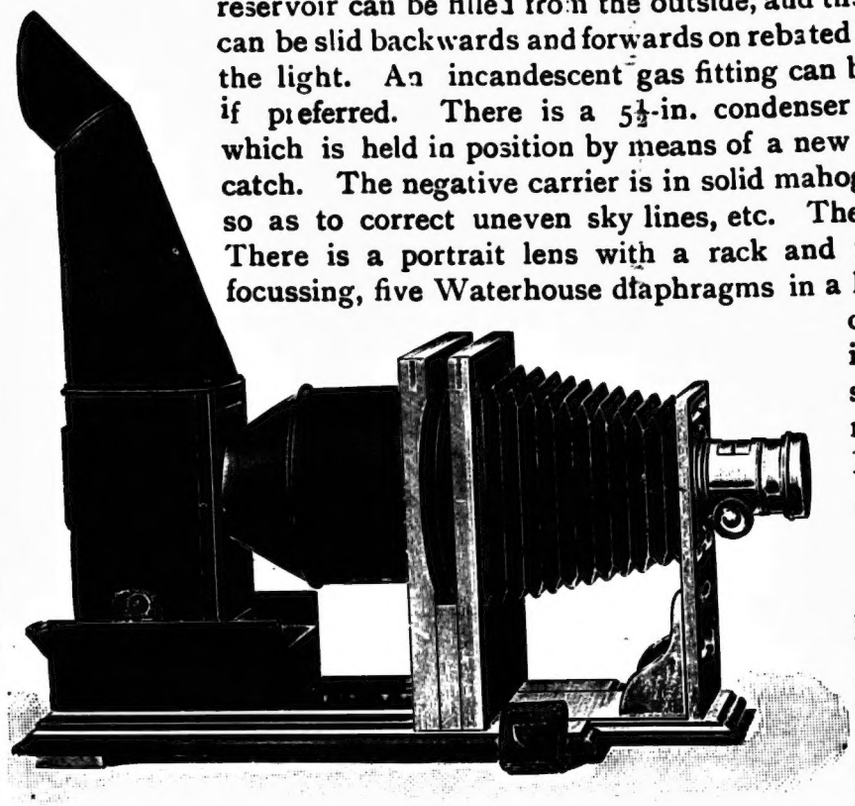

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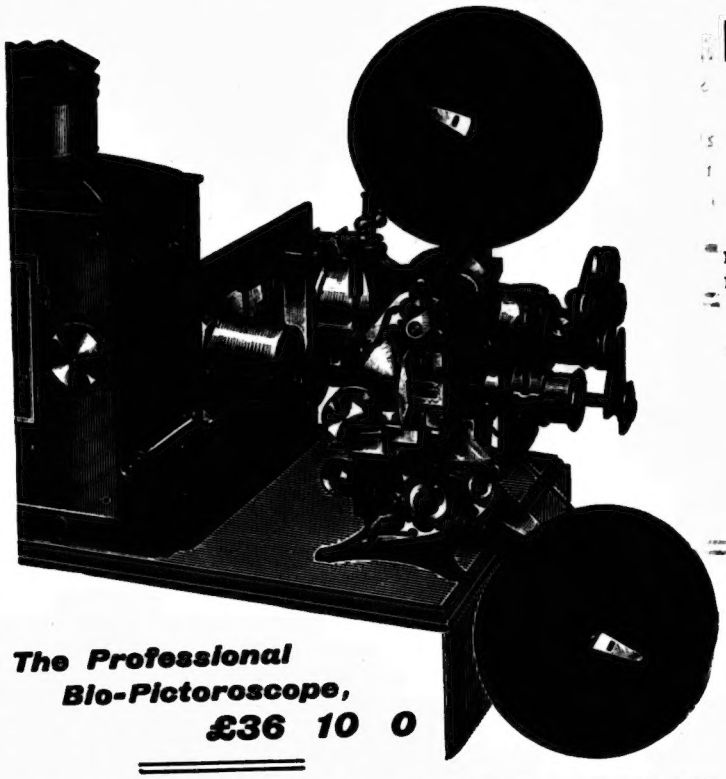

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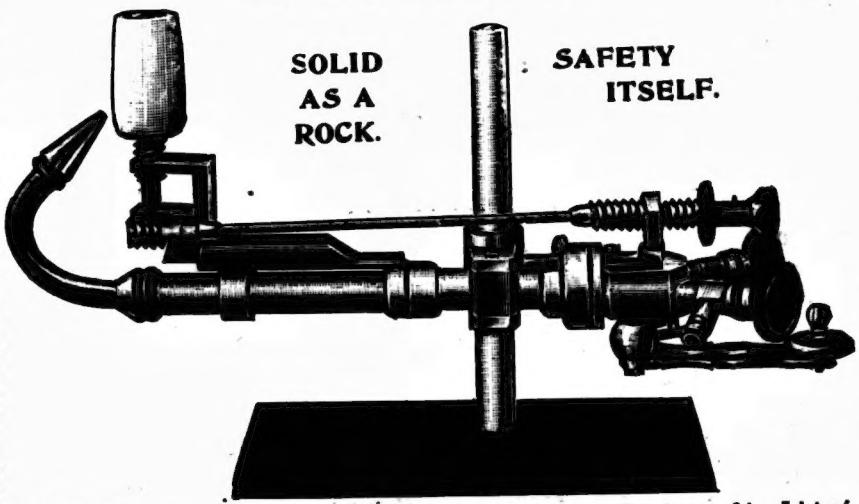

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